AMENDMENTS TO THE CLAIMS

Please amend the claims as set forth in the following listing of claims, which replaces all prior versions and listings of the claims.

1. (Currently Amended) A method of manufacturing fine particles, comprising the steps of:

measuring a temperature distribution of a flame produced by a burner;

supplying reactants and gas into [[a]] the flame ~~produced by a burner~~;

generating particle nuclei by reactions of the reactants in the flame;

forming aggregates including said particle nuclei by a collision and combination of said particle nuclei with each other in said flame;

deriving a laser beam incidence position where the aggregates begin to form and thereby, the effect of the laser beam on the aggregates can be maximized in the flame;

irradiating the at least one laser beam at the derived position into said aggregates with a power level of the laser beam sufficient to cause said aggregates to coalesce and convert said aggregates into smaller fine, substantially spherical particles; and

wherein said laser beam has a wavelength selected so as to be ~~generally coincident with said aggregates but not with said gas such that said laser beam is generally absorbed by said aggregates but not by said gas~~ absorbed by the aggregates, wherein the actual laser absorption of the aggregates is larger than that of the gas.

2-9. (Canceled)

10. (Previously Presented) The method according to Claim 1, wherein collision cross sections of said aggregates are greater than collision cross sections of the fine particles produced from said aggregates.

11. (Previously Presented) The method according to Claim 1, further comprising a step of setting the power level of said laser corresponding to a phase of the fine particles thereby controlling the phase of the fine particles.

12. (Currently Amended) A method of manufacturing nanoparticles comprising:

measuring a temperature distribution of a flame produced by a burner;

supplying reactants and gas into [[a]] the flame ~~produced by a burner~~;

generating particle nuclei by reactions of the reactants in the flame;

forming aggregates including pluralities of said particle nuclei by collision and combination of said pluralities of said particle nuclei with each other in said flame;

setting a laser beam such that the laser beam extends into said flame at a laser beam incidence position that is below a top of the flame;

irradiating the at least one laser beam onto said aggregates in the flame ~~at a position~~ at the laser beam incidence position ~~below the top of the flame~~; and

adjusting a power level of said at least one laser beam sufficient to cause said aggregates to coalesce and convert into smaller fine, substantially spherical particles,

wherein said laser beam has a wavelength ~~selected so as to be generally coincident with said aggregates but not with said gas such that said laser beam is generally absorbed by said aggregates but not by said gas~~ that coincides with an absorption wavelength of said aggregates such that more of the laser is absorbed by said aggregates than is absorbed by said gas.

13. (Previously Presented) The method according to Claim 12 additionally comprising collecting the fine spherical particles onto a member above the flame.

14. (Previously Presented) The method according to Claim 13, wherein the step of irradiating comprises directing the laser such that the laser beam does not intersect a position at which said fine spherical particles collect on the member.

15-16. (Canceled)

17. (Previously Presented) The method according to Claim 11, additionally comprising setting the power level such that the temperature of the fine particles does not reach their melting point.

18. (Previously Presented) The method according to Claim 11, additionally comprising setting the power level such that it is sufficient to raise the temperature of the fine particles above their melting point.

19. (Previously Presented) The method according to Claim 12, additionally comprising setting the power level such that the temperature of the fine spherical particles does not reach their melting point.

20. (Previously Presented) The method according to Claim 12, additionally comprising setting the power level such that it is sufficient to raise the temperature of the fine spherical particles above their melting point.

21. (Currently Amended) A method of manufacturing fine particles, comprising the steps of:

measuring a temperature distribution of a flame produced by a burner;

supplying reactants and gas at a flow rate into [[a]] said flame~~ produced by a burner~~ such that particle nuclei are generated by reactions of the reactants in the flame and aggregates are formed;

setting a laser beam incidence position of at least one laser beam relative to said flame;

irradiating at least one laser beam into said aggregates in the flame at a power level sufficient for said aggregates to coalesce and convert into smaller fine particles, said laser beam having a wavelength ~~selected so as to be generally coincident with said aggregates but not with said gas such that said laser beam is generally absorbed by said aggregates but not by said gas~~ that coincides with an absorption wavelength of said aggregates such that more of the laser is absorbed by said aggregates than is absorbed by said gas; and

positioning said at least one laser beam to irradiate into the flame at a distance from said burner, wherein said distance has a positive correlation to said flow rate.

22-31. (Canceled)

32. (New) The method of Clam 12, wherein the irradiating step includes irradiating a plurality of laser beams into said aggregates.

33. (New) The method of Claim 12, wherein said power level of said laser beam is sufficient to cause said aggregates to sinter.

34. (New) The method of Claim 12, wherein the wavelength of the laser coincides with a main absorption wavelength of the aggregates.

35. (New) The method of Claim 12, wherein the step of setting a laser beam further comprises setting the laser beam such that the laser beam incidence position is at a position

where the aggregates begin to form to thereby maximize the effect of the laser beam on the aggregates in said flame.

36. (New) The method of Claim 12, wherein the wavelength of the laser coincides with an absorption wavelength of said aggregates such that the laser causes a greater increase in a temperature of said aggregates than an increase in a temperature of said gas.

37. (New) The method of Claim 21, wherein the step of setting a laser beam further comprises setting the laser beam such that the laser beam incidence position is at a position where the aggregates begin to form to thereby maximize the effect of the laser beam on the aggregates in said flame.

38. (New) The method of Claim 21, wherein the wavelength of the laser coincides with an absorption wavelength of said aggregates such that the laser causes a greater increase in a temperature of said aggregates than an increase in a temperature of said gas.